From: Turner, Philip
To: Coltrain, Katrina
Subject: Re: TPH vs SVOC/VOC
Date: Saturday, April 30, 2016 12:14:03 AM

It warrants further consideration, however, the TPH values here are all just for non-cancer effects. We would not want to ignore cancer effects for benzene, benzo-a-pyrene, and perhaps a few others. TPH might be more useful when you have a more complicated mix and/or when you do not have some of the more carcinogenic PAHs... or if they would not be driving the risk.

From: Coltrain, Katrina
Sent: Wednesday, April 27, 2016 11:25 AM
To: Turner, Philip
Subject: TPH vs SVOC/VOC

Hey Phil, I was thinking about TPH and Wilcox so I pulled information from the screening tables. See below. So, there are screening numbers for TPH, so does that mean that a risk assessment based on TPH can be completed? The benzene screening number appears to be in line with the aromatic TPH, however I believe it is an aliphatic which puts its screening number below the screening number for TPH. This would lead me to think that we may leave benzene above its screening number if the TPH value is used. Likewise, the PAH screening numbers are well below either fraction of TPH screening numbers.

I have been moving forward in planning the RI sampling to include the priority pollutant list of parameters (metals, svocs, vocs...). Based on the data collected thus far, would there be any reason to consider TPH? Or make the argument that TPH would be more representative of site contamination?

Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=1 (mg/kg)	Dermal SL Child HQ=1 (mg/kg)	Inhalation SL Child HQ=1 (mg/kg)	Noncarcinogenic SL Child HI=1 (mg/kg)
Benzene	71-43-2	1.3E+01		1.3E+00	1.2E+00	3.1E+02		1.1E+02	8.2E+01
Ethylbenzene	100-41-4	6.3E+01		6.4E+00	5.8E+00	7.8E+03		5.9E+03	3.4E+03
Toluene	108-88-3					6.3E+03		2.2E+04	4.9E+03
Xylene, P-	106-42-3					1.6E+04		5.8E+02	5.6E+02
Xylene, m-	108-38-3					1.6E+04		5.7E+02	5.5E+02
Xylene, o-	95-47-6					1.6E+04		6.7E+02	6.5E+02
Xylenes	1330-20-7					1.6E+04		6.8E+02	6.5E+02
Total Petroleum Hydrocarbons (Aliphatic High)	NA					2.3E+05			2.3E+05
Total Petroleum Hydrocarbons (Aliphatic Low)	NA							5.2E+02	5.2E+02
Total Petroleum Hydrocarbons (Aliphatic Medium)	NA					7.8E+02		1.1E+02	9.6E+01
Total Petroleum Hydrocarbons (Aromatic High)	NA					3.1E+03	1.3E+04		2.5E+03
Total Petroleum Hydrocarbons (Aromatic Low)	NA					3.1E+02		1.1E+02	8.2E+01
Total Petroleum Hydrocarbons (Aromatic Medium)	NA					3.1E+02		1.6E+02	1.1E+02
~Acenaphthene	83-32-9					4.7E+03	1.5E+04		3.6E+03
~Anthracene	120-12-7					2.3E+04	7.6E+04		1.8E+04
~Benz[a]anthracene	56-55-3	2.1E-01	6.3E-01	4.1E+01	1.6E-01				
~Benzo(j)fluoranthene	205-82-3	5.8E-01	1.6E+00	3.5E+04	4.2E-01				
~Benzo[a]pyrene	50-32-8	2.1E-02	6.3E-02	1.3E+03	1.6E-02				
~Benzo[b]fluoranthene	205-99-2	2.1E-01	6.3E-01	1.3E+04	1.6E-01				
~Benzo[k]fluoranthene	207-08-9	2.1E+00	6.3E+00	1.3E+04	1.6E+00				
~Chloronaphthalene, Beta-	91-58-7					6.3E+03	2.0E+04		4.8E+03
~Chrysene	218-01-9	2.1E+01	6.3E+01	1.3E+05	1.6E+01				
~Dibenz[a,h]anthracene	53-70-3	2.1E-02	6.3E-02	1.1E+03	1.6E-02				
~Dibenzo(a,e)pyrene	192-65-4	5.8E-02	1.6E-01	3.5E+03	4.2E-02				
~Dimethylbenz(a)anthracene, 7,12-	57-97-6	6.1E-04	1.8E-03	1.9E+01	4.6E-04				
~Fluoranthene	206-44-0					3.1E+03	1.0E+04		2.4E+03
~Fluorene	86-73-7					3.1E+03	1.0E+04		2.4E+03
~Indeno[1,2,3-cd]pyrene	193-39-5	2.1E-01	6.3E-01	1.3E+04	1.6E-01				
~Methylnaphthalene, 1-	90-12-0	2.4E+01	6.6E+01		1.8E+01	5.5E+03	1.8E+04		4.2E+03
~Methylnaphthalene, 2-	91-57-6					3.1E+02	1.0E+03		2.4E+02
~Naphthalene	91-20-3			3.8E+00	3.8E+00	1.6E+03	5.1E+03	1.4E+02	1.3E+02
~Nitropyrene, 4-	57835-92-4	5.8E-01	1.6E+00	3.5E+04	4.2E-01				
~Pyrene	129-00-0					2.3E+03	7.6E+03		1.8E+03

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